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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,474	10/23/2001	Ronald Arthur Frank	1156.1101101	4062

		EXAMINER
7590 08/19/2005		KHOO, FOONG LIN

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ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 October 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1 – 4 rejected under 35 U.S.C. 103(a) as being unpatentable over the

applicant's admitted prior art in view of Brewer et al. (U.S. Patent No. 6,226,269).

Regarding Claim 1, the applicant's admitted prior art discloses an apparatus

comprising: (a) a frame de-encapsulation component (Figure 1 (Prior Art), element 40,

Page 4, lines 7-8) configured for producing data frames compatible with said receiver

from SONET frames input (Figure 1 (Prior Art), elements 12 and 30 wherein SONET

frames are input into a frame de-encapsulation component) thereto, and outputting said

receiver-compatible data frames (Figure 1 (Prior Art), elements 65 and 68); (b) an idle

frame signal generator configured for generating idle frame signals (Figure 1 (Prior Art),

element 50, Page 4, lines 10-11).

The applicant's admitted prior art does not disclose an apparatus for detecting

and suppressing corrupted data frames transported from a SONET network to a

receiver utilizing buffer-to-buffer credit counting means to control the flow of data frames

thereto, said apparatus comprising: (c) a Start of Frame (SOF) indicator detector

configured for detecting a Start of Frame indicator in each said receiver-compatible data

frame output from said frame de-encapsulation component and determining whether

said Start of Frame indicator is valid or corrupted, wherein said detector produces an

output signal indicative of said determination; and, (d) a multiplexer configured for

selecting for output to said receiver one of a first and a second signal input thereto on

the basis of said output signal produced by said Start of Frame (SOF) indicator detector

wherein said first input signal is a current said receiver-compatible data frame and said

second input signal is said idle frame signal, said first input signal being selected when

said output signal produced by said Start of Frame (SOF) indicator detector indicates

that said Start of Frame indicator is valid and said second input signal being selected

when said output signal produced by said Start of Frame (SOF) indicator detector

indicates that said Start of Frame indicator is corrupted.

Brewer et al. in the same field of endeavor, discloses an apparatus for detecting

and suppressing corrupted data frames transported from a SONET network to a

receiver utilizing buffer-to-buffer credit counting means to control the flow of data frames

thereto, said apparatus comprising: (c) a Start of Frame (SOF) indicator detector (Fig.

4B, element 454, col 7, lines 6-11) configured for detecting a Start of Frame indicator in

each said receiver-compatible data frame output from said frame de-encapsulation

component (Fig. 4B, element 452, col 6, lines 40-44) and determining whether said

Start of Frame indicator is valid or corrupted, wherein said detector produces an output

signal indicative of said determination (Fig. 4B, elements 454 and 456, col 6, lines 11-52. Output control circuit 456 is connected to a control input of multiplexer 458 to select the data input of multiplexer 458 to connect to outgoing loop link 464 depending on the detector's determination); and, (d) a multiplexer (Fig. 4B, element 458) configured for selecting for output to said receiver one of a first (Fig. 4B, element 452 to input port A of MUX (458)) and a second signal (Fig. 4B, element 460 to input port B of MUX (458)) input thereto on the basis of said output signal produced by said Start of Frame (SOF) indicator detector (Fig. 4B, output of CONTROL (456) to top of MUX (458)) wherein said first input signal is a current said receiver-compatible data frame (Fig. 4B, element 452 to input port A of MUX (458). Col 6, lines 17-19) and said second input signal is said idle frame signal (Fig. 4B, element 460 to input port B of MUX (458). The EOFA GENERATOR (460) is a primitive generator (col 6, lines 21-23. In the Fibre Channel (FC)-2 layer, the idle signal is part of the primitive signals.) said first input signal being selected when said output signal produced by said Start of Frame (SOF) indicator detector indicates that said Start of Frame indicator is valid (col 6, lines 40-44) and said second input signal being selected when said output signal produced by said Start of Frame (SOF) indicator detector indicates that said Start of Frame indicator is corrupted (col 6, lines 45-52).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the teachings as taught by Brewer et al. in the applicant's admitted prior art to provide an apparatus and method for replacing

invalid data and invalid control signals in a loop network to prevent errors from propagating throughout the loop.

Regarding Claim 2, the applicant's admitted prior art discloses wherein said receiver is for a fibre channel (FC) link (Figure 1 (Prior Art), element 70, Page 3, lines 17-20). A Fiber Channel Client receiver connected to the output of the Mux (element 60) via a Fiber Channel (FC) link) is shown in Figure 1).

Regarding Claim 3, the applicant's admitted prior art discloses a method comprising: (a) receiving SONET frames from said SONET network and producing data frames compatible with said receiver from said received SONET frames (Figure 1 (Prior Art), element 40, Page 4, lines 7-8. Figure 1 (Prior Art), elements 12 and 30 wherein SONET frames are input into a frame de-encapsulation component. Figure 1 (Prior Art), elements 65 and 68).

The applicant's admitted prior art does not disclose a method for detecting and suppressing corrupted data frames transported from a SONET network to a receiver utilizing buffer-to-buffer credit counting means to control the flow of data frames thereto, said method comprising: (b) detecting a Start of Frame indicator in each said receiver-compatible data frame and determining whether said Start of Frame indicator is valid or corrupted; and, (c) selecting for output to said receiver a current said receiver-compatible data frame when said Start of Frame indicator is valid and selecting for output to said receiver said idle frame signal when said Start of Frame indicator is

corrupted.

Brewer et al. in the same field of endeavor, discloses a method for detecting and suppressing corrupted data frames transported from a SONET network to a receiver utilizing buffer-to-buffer credit counting means to control the flow of data frames thereto, said method comprising: (b) detecting a Start of Frame indicator in each said receiver-compatible data frame and determining whether said Start of Frame indicator is valid or corrupted (Fig. 4B, elements 454 and 456, col 6, lines 11-52. Output control circuit 456 is connected to a control input of multiplexer 458 to select the data input of multiplexer 458 to connect to outgoing loop link 464 depending on the detector's determination); and, (c) selecting for output to said receiver a current said receiver-compatible data frame when said Start of Frame indicator is valid and selecting for output to said receiver said idle frame signal when said Start of Frame indicator is corrupted (col 6, lines 40-52).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the teachings as taught by Brewer et al. in the applicant's admitted prior art to provide an apparatus and method for replacing invalid data and invalid control signals in a loop network to prevent errors from propagating throughout the loop.

Regarding Claim 4, the applicant's admitted prior art discloses whereby said receiver is for a fibre channel (FC) link (Figure 1 (Prior Art), element 70, Page 3, lines

17-20). A Fiber Channel Client receiver connected to the output of the Mux (element

60) via a Fiber Channel (FC) link) is shown in Figure 1).

Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

U.S. Patent No. 6,226,299 to Henson relates to a fiber channel communications

systems specifically to sanitizing a data stream between ports in a network loop.

U.S. Patent No. 6,167,026 to Brewer et al. relates to electronic network systems,

and more particularly to an error control circuit within such a network loop hub which

provides automatic bypass and statistical reporting based upon programmable

parameters related to error detection.

The above prior art are cited to further show the state of the art with respect to

method of detecting and terminating invalid data transmission in a fiber channel system.

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to F. Lin Khoo whose telephone number is 571-272-5508.

The examiner can normally be reached on flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER